ADVANTAGES OF DYNAMIC VISUALIZATIONS APPLIED TO COVID-19 DATA

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and

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CONCEPT OF VISUALIZATIONS

- Important part of data analysis process
- Facilitates further and in-depth investigation
- More information to be considered when making decisions

VISUALIZATION APPLICATIONS

- Data Science
- Sales and Economics
- Health Data

- Often used for intuitive feedback for all users

VISUALIZATION METHODS

- Multiple ways to visualize data
  - Power BI
  - R
  - Excel
  - JavaScript D3

OUR PURPOSES

- Data collected from the CDC
- Misinformation makes this imperative
- Dynamic visualizations tied to authoritative data

OUR PURPOSES(CON.)

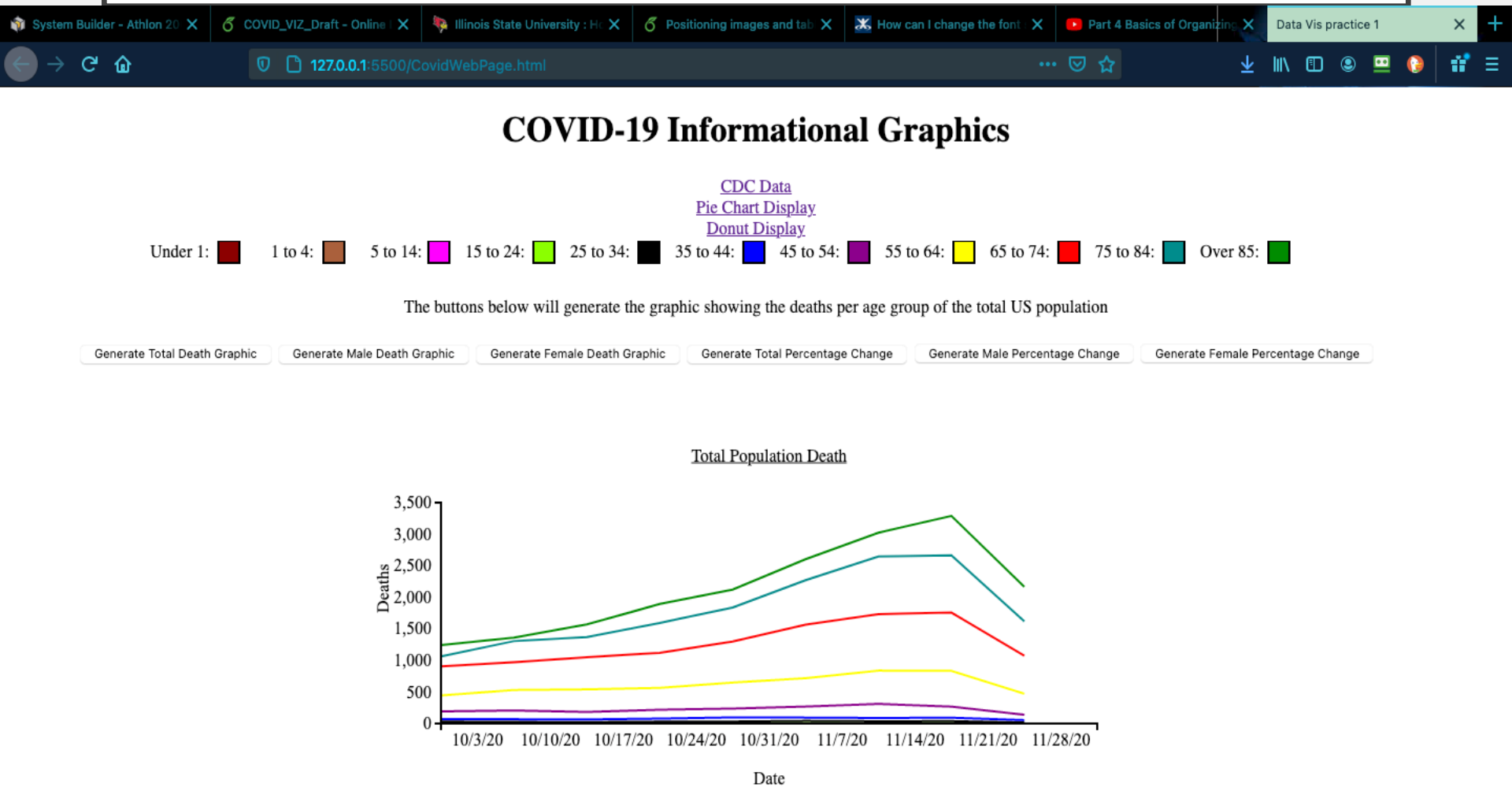
- Developed webpage technologies
- Explored the capabilities of d3 and working closely with data analysis tools in R

OUR METHODS

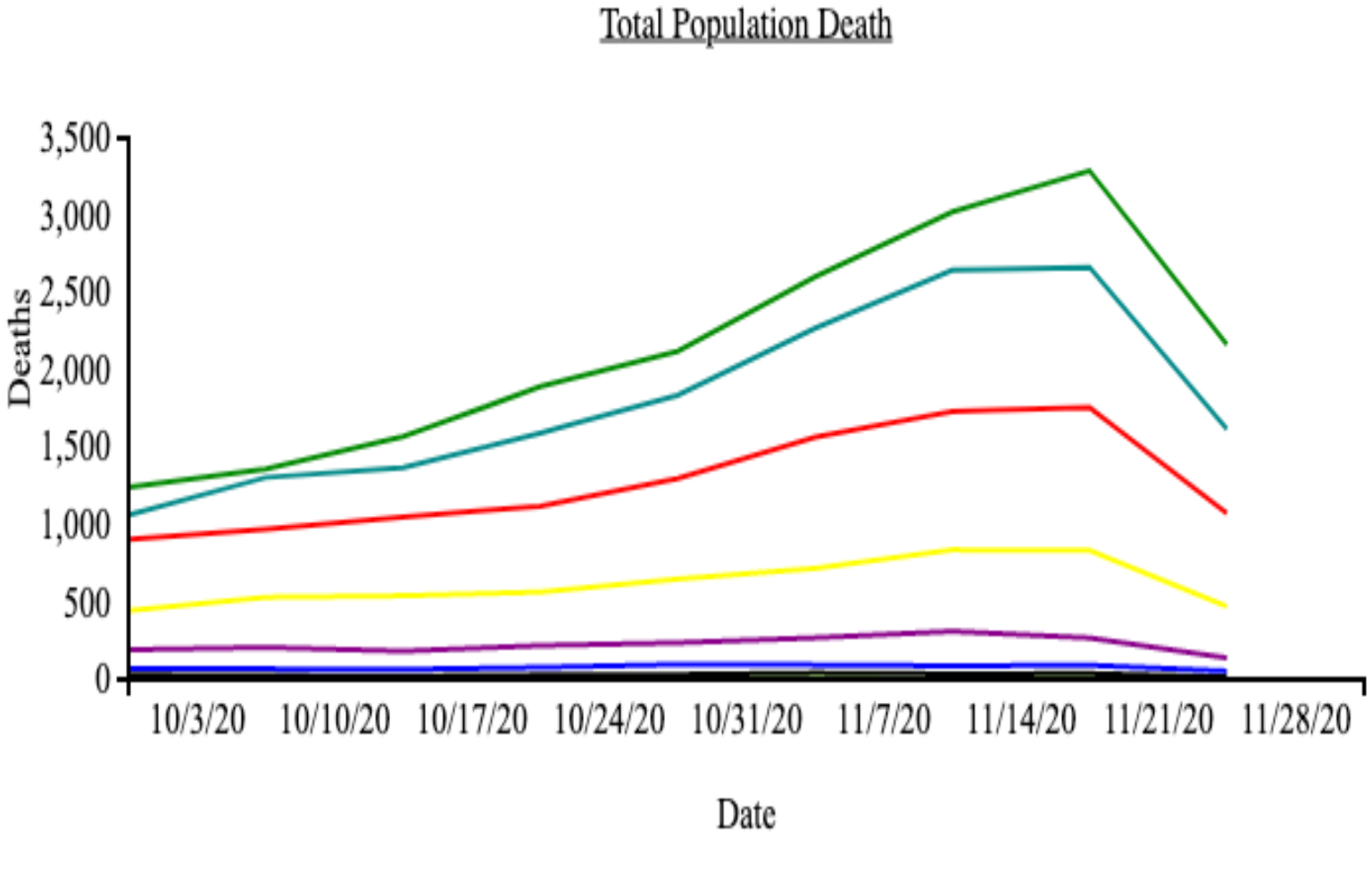
- Using D3 and R to collect and process the CDC data resulted in csv document

- This document can then be used for multitude of visualization programs and formats

OUR WEBPAGE


System Builder - Athlon 20
COVID_VIZ_Draft - Online
Illinois State University : H
Positioning images and tab
How can I change the font
Part 4 Basics of Organizing
Data Vis practice 1
127.0.0.1:5500/CovidWebPage.html
COVID-19 Informational Graphics
CDC Data
Pie Chart Display
Donut Display
Under 1:
1 to 4:
5 to 14:
15 to 24:
25 to 34:
35 to 44:
45 to 54:
55 to 64:
65 to 74:
75 to 84:
Over 85:
The buttons below will generate the graphic showing the deaths per age group of the total US population
Generate Total Death Graphic
Generate Male Death Graphic
Generate Female Death Graphic
Generate Total Percentage Change
Generate Male Percentage Change
Generate Female Percentage Change
Total Population Death
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Deaths
10/3/20
10/10/20
10/17/20
10/24/20
10/31/20
11/7/20
11/14/20
11/21/20
11/28/20
Date

INITIAL DATA COLLECTION AND VISUALIZATION



PIE CHART

127.0.0.1:5500/COVID_PieChart.html

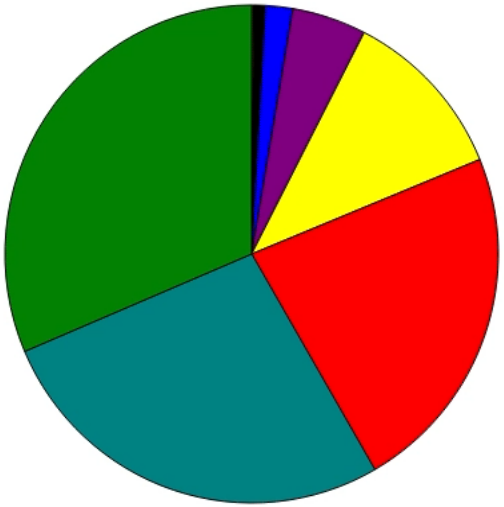
CDC Data
Donut Display
Initial Display

Developed by Jim Brokaw

Under 1: 1 to 4: 5 to 14: 15 to 24: 25 to 34: 35 to 44: 45 to 54: 55 to 64: 65 to 74: 75 to 84: Over 85:

Show the total population data

10/03/20 10/10/20 10/17/20 10/24/20 10/31/20 11/7/20 11/14/20 11/21/20 11/28/20



DONUT CHART

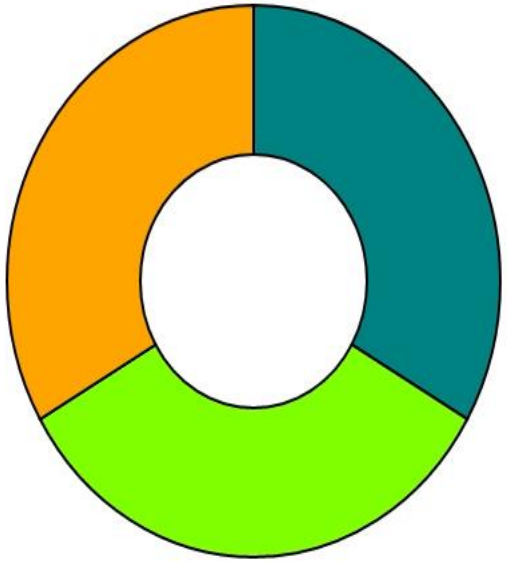
COVID-19 Informational Graphics

These graphics are generated by using data collected from the CDC's webiste

CDC Data
Pie Chart Display
Initial Display

10/03/20: 10/10/20: 10/17/20: 10/24/20: 10/31/20: 11/07/20: 11/14/20: 11/21/20: 11/28/20:

under 1 | 1 to 4 | 5 to 14 | 15 to 24 | 25 to 34 | 35 to 44 | 45 to 54 | 55 to 64 | 65 to 74 | 75 to 84 | Over 85



R ANALYSIS

$$\Delta\% = \frac{V_n - V_o}{V_o} * 100$$

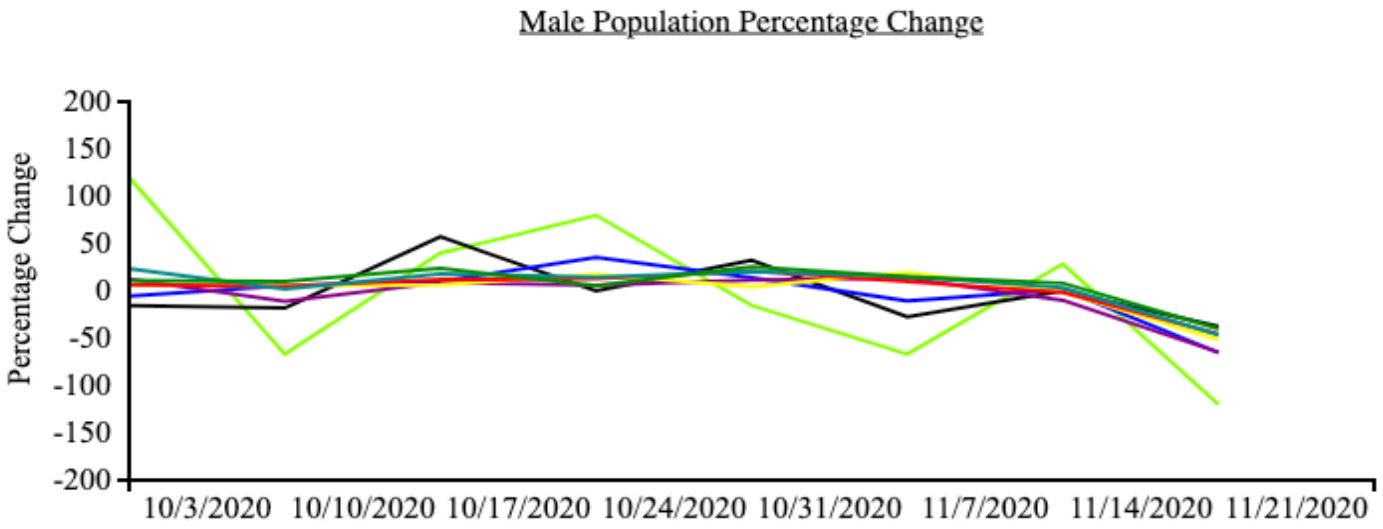
- V_n: *is the value from the next week*

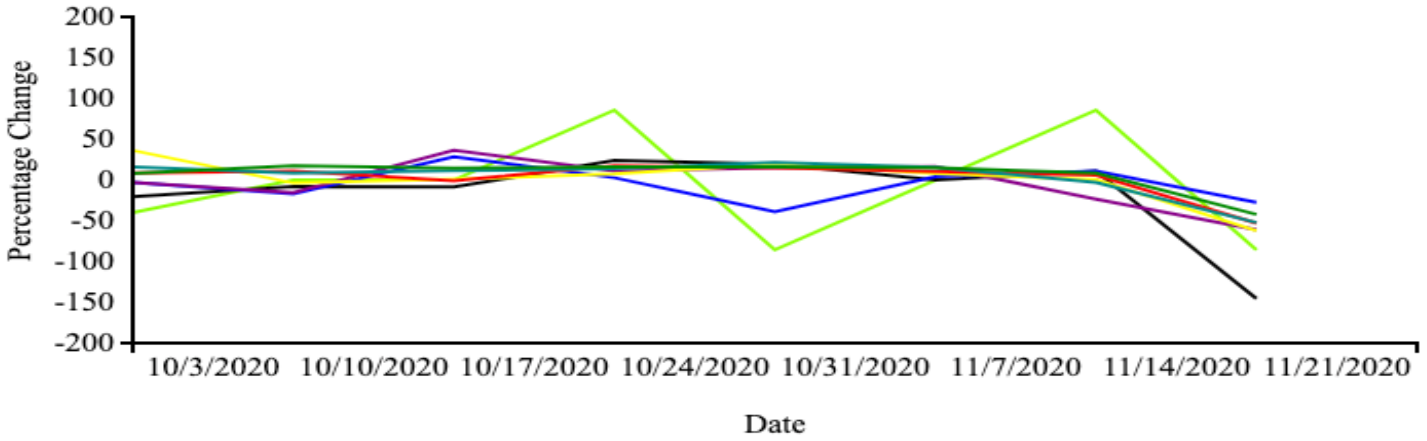
- V_o: *is the value from the previous week*

Used to scale and see how much change occurred on a weekly basis

Wrote the results to a new CSV document to be used in visualization platform

NEW VISUALIZATION





Over 85

75 to 84

65 to 74

55 to 64

45 to 54

35 to 44

25 to 34

15 to 24

5 to 14

1 to 4

Under 1

FUTURE WORK

- Mapping vaccination effectiveness
- Representing spread of potential variants
- More statistical information can be displayed with each visualization

CONCLUSION

- Dynamic visualization provide more complete picture of data evolution over time
- COVID-19 affects varying age groups within the sexes differently